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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
LEUNG, KA CHUN A	

ART UNIT	PAPER NUMBER
3747	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,015	VOGELSANG, KLAUS	
	Examiner	Art Unit	
	Ka Chun Leung	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01/18/2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/18/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see Page 3 of the Specification). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because Figures 1-11 contains lines, numbers, and characters that are not "durable, clean, black (except for color drawings), sufficiently dense and dark, and uniformly thick and well-defined", see MPEP 608.02 (V)(I). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an

amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "central ring" of the retarder must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose the range of reduction in flow resistance between the "first flow resistance" and the "second flow resistance".

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 11, 13, 14, 18, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Regarding Claims 11, 14, 18, and 27, where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "reversing valve" in Claims 11, 14, 18, and 27 is used by the claim to mean "a valve used to switch to a bypass or alternative cooling channel", while the accepted meaning is "a valve used to reverse the direction of flow." The term is indefinite because the specification does not clearly redefine the term. Note that "reversing valves" are commonly found on heat pumps and allows refrigerant's direction of flow to be reversed in order to switch from a cooling to heating mode, or vice versa.

10. Specifically regarding Claim 13, the term "approximately" is a relative term which renders the claim indefinite. The term "approximately" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the

invention. Thus it is unclear what range of percentages in reduction of flow resistance the claim encompasses.

11. Specifically regarding Claim 18, the claim recites the limitation "the radial outer opening surface" , "the outside", and "the inside" in the last three lines. There is insufficient antecedent basis for this limitation in the claim.

12. Specifically regarding Claim 27 recites in the first three lines:

> "An engine comprising:
> a coolant circuit of a motor vehicle having a coolant flowing therethrough and the motor vehicle having an engine, the coolant circuit comprising..." (emphasis added).

The claim is rendered indefinite since it is unclear whether there are two separate engines being provided or if it is in reference to the same engine.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

EDELMANN et al

15. Claims 11-17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over EDELMANN et al (US Patent 5,996,762). EDELMANN et al discloses in Figure 3 a drive unit comprising an internal combustion engine (1), cooling circuit (17), a radiator (19), a water pump (23), a changeover valve (44), and a retarder (40). However, EDELMANN et al does not distinctly disclose the flow resistance being lower when the retarder is connected to the cooling circuit.

16. It is known in the art that retarders also act as a pump when it is being driven and connected to the cooling circuit. For example, CAMPBELL et al (US Patent 3,185,261) discloses in Column 2, Lines 7-10 that it is "well known" that retarders when driven also act as a pump and circulates fluid in a closed circuit. Similarly, NAGEL (US Patent 3,367,461) discloses the retarder acting "somewhat as a pump" in Column 5, Line 25. Thus the cooling circuit of EDELMANN et al would inherently have less flow resistance when the retarder is connected since the retarder would also perform a pumping function.

17. Specifically regarding Claims 11 and 27, the retarder inherently acts as a pump when it is driven and therefore the cooling circuit would have a lower flow resistance when the retarder is connected to the cooling circuit. The structure that would

inherently surround the stator and rotor structure of the retarder has been interpreted as the "central ring".

18. Specifically regarding Claim 12, EDELMANN et al distinctly discloses in Column 2, Lines 44-46 that water or water-glycol mixture are preferred coolant mediums.

19. Specifically regarding Claim 13, since the retarder (40) would contribute to pumping, the overall flow resistance in the cooling circuit (17) would be reduced.

20. Specifically regarding Claim 14, the retarder (40) is connected in series with the pump (23) and the changeover valve (44) when the cooling circuit (17) is operating in position I.

21. Specifically regarding Claim 15, EDELMANN et al discloses in the embodiment of Figure 7, a second water pump (70), a retarder (40), and a changeover valve (44). In this embodiment, the second water pump can be interpreted as the "coolant pump" and is located upstream of the engine while the retarder (40) is located downstream of the engine.

22. Specifically regarding Claim 16, using the changeover valve (44) of Figure 3 as the starting point, the pump (23) is downstream of the engine, while the retarder (40) is upstream of the engine.

23. Specifically regarding Claim 17, EDELMANN et al discloses in Column 2, Line 22, that the retarder is a "secondary retarder".

EDELMANN et al and HOFFLAND

24. Claim 18, as best interpreted, is rejected under 35 U.S.C. 103(a) as being unpatentable over EDELMANN et al (US Patent 5,996,762) in view of HOFFLAND (US Patent 3,721,265).

25. EDELMANN et al discloses in Figure 3 a drive unit comprising an internal combustion engine (1), cooling circuit (17), a radiator (19), a water pump (23), a changeover valve (44), and a retarder (40). EDELMANN et al does not distinctly disclose the changeover valve as being a cylindrical valve.

26. HOFFLAND discloses a three-way valve including a valve body (14) and plug (12) for permitting transfer of fluids between a main port (17) to either or both of the side ports (16, 18) and includes a conically tapered portion (43). HOFFLAND further discloses providing a groove as a secondary passage to prevent stagnation.

27. Thus it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have provided the changeover valve of EDELMANN as a rotary valve with a secondary passage groove, in light of the teachings of HOFFLAND, in order to selectively direct fluid between the inlet and the outlets without any stagnation problems.

EDELMANN et al and NAGEL

28. Claims 19-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over EDELMANN et al (US Patent 5,996,762) in view of NAGEL (US Patent 3,367,461).

29. EDELMANN et al discloses in Figure 3 a drive unit comprising an internal combustion engine (1), cooling circuit (17), a radiator (19), a water pump (23), a changeover valve (44), and a retarder (40). EDELMANN et al further discloses the retarder (40) comprising a stator impeller (48.2) and rotor impeller (48.1). However, EDELMANN et al does not disclose the physical features of the stator.

30. NAGEL discloses a retarder for a motor vehicle and discloses a rotor (42) and a stator (51) comprising annular trough-like elements (52), inlet manifold (53), a plurality of nozzles (54) and an outlet pipe (57). Note that Figures 5 and 6 illustrates the nozzles as being flared and further the portion adjacent to the nozzle forms a rib or blade like structure.

31. Thus it would have been obvious to one of ordinary skill in that art to have provided the retarder of EDELMANN et al with the rotor and stator structure including ribs and flared nozzles, in light of teachings of NAGEL, in order to direct flow and absorb energy with "maximum efficiency".

32. Specifically regarding Claim 28, EDELMANN et al discloses in Column 2 that that effective braking torque developed by turbine-type retarders increases as an exponential function of its speed and further discloses providing the retarder "ahead of the transmission gearing" such that the retarder is driven at a high speed regardless of the selected gear ratio in the transmission.

33. Thus it would have been obvious to one of ordinary skill in the art to have provided the retarder of EDELMANN et al ahead of the transmission and in connection

with the engine drive side, in light of the teachings of NAGEL, in order to provide effective braking torque.

Double Patenting

34. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

35. Claim 27 is objected to under 37 CFR 1.75 as being a substantial duplicate of Claim 11. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

36. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. FRIEDRICH et al (US Patent 6,546,899 and US 2002/0148691) have been cited to show similar cooling circuits including retarders and bypass cooling passages. PICCIRILLI et al (US Patent 6,539,899) and SPIES et al (US Patent 5,617,815) have been cited to show similar rotary valves for a cooling system.

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ka Chun Leung whose telephone number is (571) 272-9963. The examiner can normally be reached on 7:30AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Cronin can be reached on (571) 272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCL
Ka Chun Leung
Examiner
Art Unit 3747

STEPHEN K. CRONIN
SUPERVISORY PATENT EXAMINER